

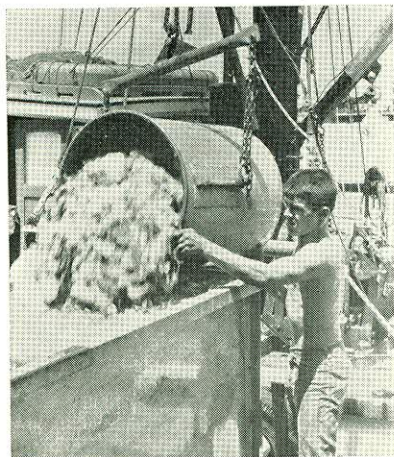
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Conservation Pledge

I give my
pledge as an American
to save and faithfully to
defend from waste the
natural resources of
my country—its soil
and minerals, its
forests, waters
and wildlife

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Shrimp represent one of the most important items in Louisiana's commercial fisheries industry. In 1963 the State had an exceptional shrimp production with total catch in excess of 83 million pounds, heads-on weight. Production was equivalent to the best year for which there are records and exceeds the 20-year average from 1939 to 1956. Here, freshly caught and iced shrimp are loaded into refrigerated storage bins aboard a tugger and later will be unloaded at freezer or processing plants in the first step toward widespread national distribution.

(Photo by Jack Britt)

LOUISIANA *Conservationist*

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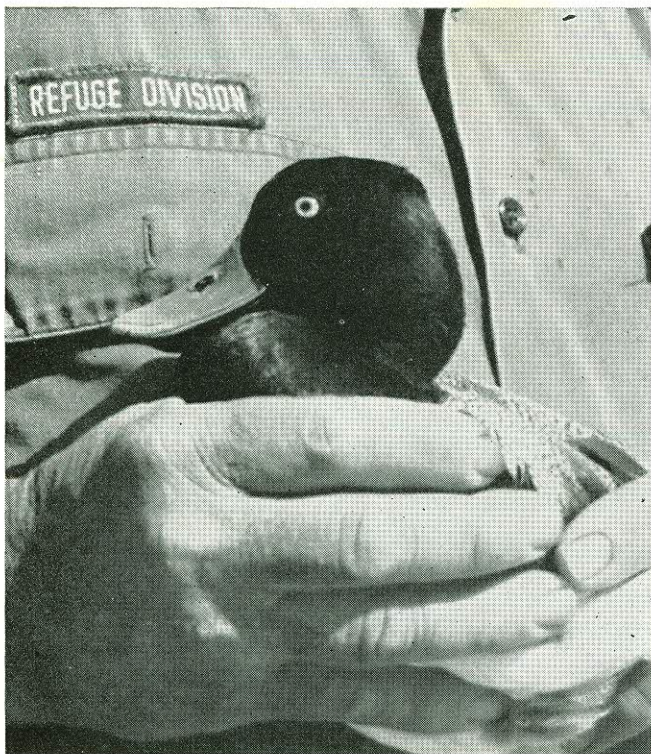
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SCAUP SCOOP

Robert H. Chabreck



PHOTOS BY THE AUTHOR

WHAT ARE THE migration routes for Louisiana ducks, how long do they live, how many are killed each year? These are questions frequently asked. The answers are not only of great interest to sportsmen but vitally important to persons responsible for managing our wildlife resources.

For many years the Louisiana Wild Life and Fisheries Commission has been seeking answers to these and many more questions regarding Louisiana wildlife. The answers do not come over-night. Rather, many years of planning, field work and analysis are required.

One such study involving the banding of 4,969 lesser scaup has been underway on Rockefeller Refuge in Southwestern Louisiana since early 1960. This study was designed to provide information on the duck now wintering in Louisiana in greatest numbers—the lesser scaup.

The lesser scaup has several aliases: dos gris, bluebill, blackjack, and since 1963, bonus duck. The scaup has increased in recent years and wintering populations in Louisiana now number about 1.5 million. They arrive in October, depart in May and are distributed in all parts of the state, but largest concentrations are found along the coast. Large flocks have been seen in the Gulf as far out as 25 miles, apparently unaffected by heavy seas.

A close relative, the greater scaup, also winters in Louisiana, but in very small numbers. In fact, the use of the name "scaup" alone, usually refers to the lesser scaup.

A banding program was started on Rockefeller Refuge in January, 1960. The first part of this program was instituted as a pilot study, set up

to develop ways and means of live-trapping large numbers of birds under the conditions as found on the refuge.

This work was geared primarily at determining the distribution and migration patterns of scaup to and from Louisiana. Also, the data was to be used as a gauge for measuring natural mortality and the hunter's kill.

The technique for trapping scaup was developed soon after the study was begun. The method was quite simple and stemmed mainly on the eagerness of this species to take bait placed around the traps. Once developed, several sites were selected and the trapping begun. The method was refined after it was used over a period of time.

The routine used consisted of daily visits to each trap. The birds in traps were promptly removed and the traps rebaited. Leg bands were attached to all new birds, then the band number and the sex and age of the bird was recorded and the bird released. Records were also kept on birds previously banded and retrapped.

The 1960 banding program was terminated with the beginning of the northward migration. A total of 588 scaup were banded during that spring.

An expanded banding program was planned for 1961. Large concentrations of scaup were located in the Gulf of Rockefeller Refuge during early winter. Normally the scaup move inland in January or February and we had everything set up for their arrival inland. However, the scaup had different plans and remained offshore until the time for migration. As a result no scaup were banded that spring.

The reason for the birds remaining offshore during the period was a big puzzle. In order to find why this happened, several trips were made out into the Gulf and a number of scaup collected. The birds were in excellent condition, with weights averaging about 20 per cent over those found inland and having gullets filled with surf clams.

Bottom samples then taken in that area revealed an abundance of food available for the scaup. The clam found in the gullet, plus several others, were present in amounts often exceeding 200 pounds per acre. The birds, feeding to depths of 25 feet and finding conditions to their liking, apparently preferred to remain offshore.

The banding program was again planned for 1962, but again the scaup remained in the Gulf, coming inshore only when enroute northward. Several techniques were discussed for capturing the birds offshore, but many drawbacks involved in this operation forced us to discontinue the idea.

Conditions changed in 1963 and the scaup moved inland on schedule. The method developed in 1960, with slight modification, was used and by mid-April 1270 scaup departed northward from the refuge carrying new bands.

In 1964 an expanded program was planned and again the scaup moved inland in large numbers. Trapping was begun in mid-January and by mid-April 3111 scaup were banded.

The movement of scaup inland during the spring of 1963 and 1964 is still unexplained, but bottom sampling in the Gulf during the spring of 1964 disclosed an almost complete absence of surf clams.

The 1963 trapping recovered none of the scaup banded in 1960. However, one was captured in March that had been banded as a young bird in July, 1959 in Southern Alberta.

In the course of the 1964 trapping, 27 scaup were recaptured that were banded the previous year on Rockefeller Refuge, and 7 that had been



Leg bands are attached to each new bird. This information plus the sex and age of each bird is carefully recorded.

banded in 1960. In addition 10 scaup were captured carrying bands installed elsewhere.

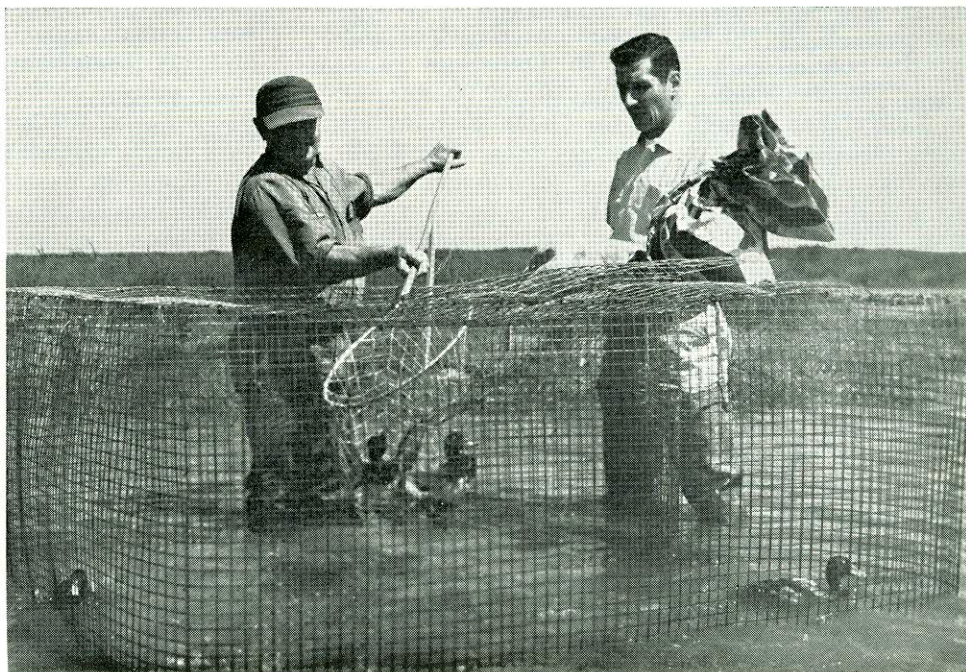
Since the beginning of the banding program, 27 recoveries were reported on scaup banded on the refuge. Of these, 23 were killed and turned in by hunters.

National recovery records show that eleven of the birds were killed in Gulf Coast States, 4 in Midwest, 5 in Canada and 1 in Alaska. The scaup recovered in Alaska was live-trapped and released during a banding operation similar to the one on Rockefeller Refuge.

Scaup banded on Rockefeller Refuge during the spring showed a fairly wide distribution across the Gulf Coast on their return trip the following fall. Banded birds were recovered from South Texas across Louisiana to the western part of Mississippi. Over half of the recoveries from

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Removing ducks from a trap. The ducks are placed in sacks and held for banding.



of many insecticides will destroy shrimp, oysters and fish larvae. Fish eggs containing insecticide fail to hatch or the fry die immediately after hatching. Little if anything is known of the effects of trace levels of insecticide toxins or planktonic forms making up the base of the food chain. Many of these forms are microscopic and may be extremely sensitive to toxins or conversely may be resistant and concentrate the chemicals only to kill large animals when consumed as food.

4. Arguments will probably wax and wain for some time concerning the amounts of insecticides entering our river systems and estuaries and whether or not the levels are sufficiently high to be dangerous. Nevertheless, it seems unrealistic to assume that insecticides and other pollution products can be continuously added to our water systems year after year without expecting disastrous effects sooner or later. Already it has been demonstrated by the U.S.P.H.S. that since 1957 most of the major river systems in the United States contain measurable amounts of insecticides. The chlorinated hydrocarbons are known to persist for long periods of time, even as much as ten years. (Lichtenstein and Polivka, 1959) Who is to say that bottom muds of rivers and estuaries will not in time become contaminated with unacceptable levels of toxic chemicals? And who can tell how long they will remain contaminated even if the source of pollution was eliminated.

We believe that the recent massive fish kills in the Mississippi River and its estuary attributed to endrine and other pesticides portends things to come. While there has been no reported kills of shrimp this is not surprising. Millions of adult shrimp can die and never be seen and the mortality of larvae would only be reflected in a decimated harvest of adults. These things we do know and cause grave concern. Insecticides have been detected in the Mississippi River and its delta area. Fish kills of marine species have been reported in the delta area. Speckled trout, flounder and other species formally occurring in great numbers in the passes of the river at low water stage have all but disappeared in the past four years. Shrimp production averaging 80,000,000 pounds annually from 1939 to 1956 suddenly has become extremely cyclic for no obvious reason since 1957. During the past six years, excepting 1963, production has been down and during two years reached lows of 30,000,000 pounds. Reduced production has been associated with high rainfall years and high river stages. The one normal year out of six, 1963, occurred in a drought period of low river flow. At present we do not know the answer to this puzzle but our shrimp research program is rapidly being geared to determine the relationship between river water and shrimp production.

In conclusion it is assumed that since this

hearing deals with registration and regulations of pesticides that some constructive suggestions for the improvement of present conditions should be made.

This is a difficult task from our point of view because we are not familiar with the mechanics of pesticide regulations. Our position on such matters would be to request of the proper regulatory agency to take whatever steps are necessary to eliminate or reduce the present levels of insecticides to a point where they will pose no future danger to fish and wildlife and to establish and maintain such safeguards as are necessary to prevent future excessive pollution of water supplies. We feel that the extensive fish kills since 1960 clearly point to a condition of excessive pollution and we can expect continuing and perhaps greater fish mortalities in years to come if some action is not taken. Other ramifications of insecticide contamination in the river are only now being intensively investigated and all indications point to the fact that more problem areas will occur if corrective action is not taken. *

SCAUP SCOOP

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Louisiana were from the southeastern part of the state.

The data on band recoveries reported by hunters show a very low recovery rate on lesser scaup as compared to certain other ducks. The recovery rate on mallards has been listed at about 8 per cent. However, the first year recovery rate of the 1859 scaup banded in 1960 and 1963 averaged 0.97 per cent. The recovery rate for 1960 bands was 0.85 per cent, while that of 1963 bands increased to 1.02 per cent. The increase in the recovery rate from 1960 to 1963 reflects an increased harvest rate for scaup. Although the basic bag limit was the same both years (4 ducks), a bonus of 2 lesser scaup was permitted on the 1963 birds. Also, permitting only 2 mallards in the bag limit during the 1963-64 season, placed more gunning pressure on scaup. Yet, even with increased gunning pressure the recovery rate increased by only 0.17 per cent.

The small increase in the band recovery rate points out that liberalization on scaup hunting has not greatly affected the kill. Two factors are responsible for the low scaup kill. The first and main factor is that most scaup winter on large lakes, bays and the Gulf of Mexico, and are generally not accessible to hunters. Secondly, most areas where scaup are available are not hunted heavily.

The data on retrapped scaup paint a very interesting picture. It shows that the retrap rate declines only 14.6 per cent annually in subsequent years after banding and is indicative of the annual mortality rate of adult scaup wintering in Louisiana. *